

## ABSTRACT OF THE DISCLOSURE

An O<sub>2</sub>-sensor fault diagnosis apparatus and method therefor, which are capable of detecting wire breaking of an O<sub>2</sub>-sensor with reliability and successively performing fault diagnosis with minimal effect on an exhaust gas. An O<sub>2</sub>-sensor 19 detects concentration of oxygen contained in an exhaust gas of an engine 1. An ECU 20 controls a quantity of fuel supplied to the engine 1 through feedback control according to an output signal of the O<sub>2</sub>-sensor. A fault diagnosis portion changes an input resistance value of an input circuit that is connected to the O<sub>2</sub>-sensor 19 and constitutes the ECU 20 each time a control condition for determining that the O<sub>2</sub>-sensor 19 is in an inactive state is satisfied, determines that wire breaking occurs in the O<sub>2</sub>-sensor 19 only if the output voltage of the O<sub>2</sub>-sensor 19 exceeds a predetermined voltage, and activates an informing portion to send a notice showing that there is a fault in the O<sub>2</sub>-sensor 19.